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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,474	01/23/2002	James L. Tracy	CM02045K	6374

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT PAPER NUMBER

2673

DATE MAILED: 12/05/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,474

Applicant(s)

TRACY ET AL.

Examiner

Jeff Piziali

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference signs not mentioned in the description: 111 (see Fig. 1) and 303 (see Fig. 3). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference signs in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "412" has been used to designate both the "spring means" and the "conductive member" (see Page 8, Lines 24-31 of the Specification). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2673

4. Claims 1-4, 8-12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Di Santo et al. (US 4,870,677).

Regarding claim 1, Di Santo discloses a button mechanism, comprising: a switch means [Fig. 1; 12] for operating a button circuit in response to actuation of the button mechanism; display means [Fig. 1; 11] disposed in correspondence with the switch means (see Column 2, Line 51 - Column 4, Line 41) and comprising: a driver layer having a conductor pattern configured in the pattern of a symbol (see Figs. 2 & 3) to be displayed on the button mechanism; a transparent conductor layer; and an electrically active ink layer disposed between the transparent conductor layer and the driver layer (see Column 1, Line 38-67).

Regarding claim 2, Di Santo discloses the conductor pattern comprises: a first set of conductor elements corresponding to a first symbol [Fig. 2; "ABC 2"]; and a second set of conductor elements corresponding to a second symbol [Fig. 2; "DEF 3"]; wherein the first and second symbols are coincidentally located (see Column 3, Line 59 - Column 4, Line 41).

Regarding claim 3, Di Santo discloses a third set of conductor elements which form segments [horizontal X line patterns, for instance] common to both the first and second symbols (see Fig. 5; Column 4, Line 42 - Column 5, Line 41).

Regarding claim 4, Di Santo discloses the first and second symbols are not commonly oriented (see Figs. 2 & 3).

Regarding claim 8, this claim is rejected by the same reasoning applied in the above rejection of claim 1; moreover, Di Santo discloses an adaptable keypad (see Figs. 2 & 3), comprising: a plurality of keys (see Column 3, Line 59 - Column 4, Line 41).

Regarding claim 9, this claim is rejected by the same reasoning applied in the above rejection of claim 2.

Regarding claim 10, this claim is rejected by the same reasoning applied in the above rejection of claim 3.

Regarding claim 11, this claim is rejected by the same reasoning applied in the above rejection of claim 4.

Regarding claim 12, Di Santo discloses the first set of conductor elements for each of the plurality of keys forms a first symbol set [Fig. 2], the second set of conductor elements for each of the plurality of keys forms a second symbol set [Figs. 3 & 5], the first and second symbol sets are exclusively energized depending on a mode [Figs. 2 & 3; 100] of operating the keypad (see Column 2, Line 51 - Column 4, Line 41).

Regarding claim 16, this claim is rejected by the same reasoning applied in the above rejection of claims 1, 2, and 8; moreover, Di Santo discloses a portable electronic device [Fig. 1; 10] having an adaptable keypad [Fig. 1; 11 & 12] (see Column 2, Line 51 - Column 4, Line 41).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-7 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Di Santo et al. (US 4,870,677) in view of Dreher (US 4,551,717).

Regarding claim 5, Di Santo does not explicitly disclose the switch means comprises a popple switch. However, Dreher does disclose a switch means [Fig. 2; 20] comprising a popple switch [Fig. 2; 11 & 12] (see Column 2, Lines 26-65). Di Santo and Dreher are analogous art because they are from the shared inventive field of buttons having variable displays. Therefore, it would have been obvious to one skilled in the art at the time of invention to use Di Santo's electrophoretic display as Dreher's display [Fig. 1; 40], so as to provide the programmable key with a thin display device capable of high resolution at low power.

Regarding claim 6, Dreher discloses a transparent actuating member [Fig. 2; 12] disposed in correspondence with the popple switch, such that the display means [Fig. 2; 15] is between the popple switch [Fig. 2; 20] and the transparent actuating member (see Column 2, Lines 26-65).

Regarding claim 7, Dreher discloses the transparent actuating member has a convex outer surface (see Fig. 2; 12).

Regarding claim 13, this claim is rejected by the same reasoning applied in the above rejection of claim 5.

Regarding claim 14, this claim is rejected by the same reasoning applied in the above rejection of claim 6.

Regarding claim 15, this claim is rejected by the same reasoning applied in the above rejection of claim 7.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Klausner et al. (US 4,117,542), Warnecke et al. (US 4,352,959), Menn (US 4,633,227), DiSanto et al. (US 4,655,897), Kaehler (US 5,128,672), Tanaka et al. (US 5,134,505), Tak (US 5,515,045), Bartley et al. (US 5,521,342), Jasinski et al. (US 5,559,512), Jaeger (US 5,712,661), Acevedo (US 5,818,361), Jaeger (US 5,867,149), Akpa (US 5,914,676), Kim (US 6,281,812), and Amari et al. (US 6,498,614) are cited to further evidence the state of the art pertaining to button mechanisms.

Art Unit: 2673

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



J.P.

25 November 2003



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER